

M-15281US  
10/753,673REMARKS

Applicants respectfully note that there may be some misunderstanding regarding claim 1 as to the lateral extent of the "P+ diffusion region that forms the floating gate transistor's drain" as compared to the lateral extent of the "N implant." In particular, claim 1 recites that these lateral extents are substantially the same as reflected by the limitation of "a lateral extent of the N implant is substantially the same as a lateral extent of the P+ diffusion region that forms the floating gate transistor's drain." Applicant readily agrees with the mathematical analysis set forth in the 8/9/06 office action that proves that Chindalore's (US Publication No. 2004/0070030) halo implant 46 has a lateral extent that is less than the diffusion region 54: this fact naturally flows from the angled implant scheme being used by Chindalore to form implant 46. In this regard, Applicants respectfully traverse the assertion in the 8/9/06 action, pages 8 through page 9 that:

Applicants argue that the purpose of applicants' implant would be destroyed by the angled implant of Chindalore. However, this is interesting but irrelevant for the validity of the rejection under 35 USC 103(a), for which the requirement is whether or not it would have been obvious to include the teachings by Chindalore in the invention by Chang. The arguments in the previous office action on page 3 argue that it indeed would have been obvious. These arguments are not addressed in applicants' Remarks.

In sharp contrast, it is not only interesting but quite relevant that the purpose of Applicants' implant would be destroyed by the angled implant of Chindalore. In particular, the 8/9/06 office action has provided no motivation or suggestion for why someone of ordinary skill would combine Chang and Chindalore to produce the combination recited in claim 1 – and more particularly, the limitation of "a lateral extent of the N implant is substantially the same as a lateral extent of the P+ diffusion region (emphasis added)." Applicants can only surmise that this limitation has been interpreted as "a lateral extent of the

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N implant being substantially less than the lateral extent of the P+ diffusion region.” But such conjecture is irrelevant in that Applicants did not claim this lateral extent. And the fact that Chindalore’s angled implant is used to affect the threshold voltage ( $V_t$ ) of the resulting device is extremely relevant because it provides no motivation for its combination with Chang to produce the combination of claim 1. Specifically, under MPEP 2143.01 V., the proposed modification of the prior art cannot render the prior art unsatisfactory for its purpose. So, even if one were to suppose that it would be obvious to modify Chindalore to make its angled implant normally directed (so that the lateral extent of the diffusion region and the implant were substantially the same), that supposition is not the basis of a *prima facie* obviousness rejection under MPEP 2143.01 V because the lack of an angle to Chindalore’s implant would destroy the  $V_t$  effect that is desired by Chindalore. Thus, no *prima facie* obviousness exists with the combination of Chang and Chindalore in regard to the pending claims (the remaining claims being depending on claim 1).

As stated in the previous response, Applicants’ implant has nothing to do with changing the threshold voltage by doping in the channel region. Instead, the lateral extent of the implant is the same as that for the diffusion region – they are both implanted or diffused normally into the substrate. Indeed, as described by the Applicants, for example, on page 6, line 5-10, one of the purposes of their “one-sided” implant is to protect against punch through. However, such a goal is destroyed by the angled implant of Chindalore because of the  $V_t$  adjustment.

In sum, the combination of Chindalore and Chang makes no teaching or suggestion for an implant having the lateral extent limitation of claim 1. Thus, claim 1 and its dependent claims are allowable over the cited prior art.

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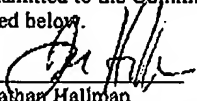
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Applicants have amended the pending dependent claims to address the indefiniteness issue.


If there are any questions regarding any aspect of the application, please call the undersigned at (949) 752-7040.

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I hereby certify that this correspondence is being facsimile transmitted to the Commissioner for Patents on the date stated below.

  
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